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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/000,123	12/04/2001	Chiaki Goto	Q66564	8466

7590 01/15/2003

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EXAMINER

AL NAZER, LEITH A

ART UNIT

PAPER NUMBER

2828

DATE MAILED: 01/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/000,123	Applicant(s) GOTO, CHIAKI	
	Examiner Leith A Al-Nazer	Art Unit 2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.


- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.


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Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. Figures 17, 18, 19A, and 19B should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claim 36 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n). Accordingly, the claim has not been further treated on the merits.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 1-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites elements of the laser light source but fails to provide all the connections and structural relationships to properly conform the laser apparatus. For example, claim 1 recites a wavelength selector, but the claim fails to provide any structural relationships between the wavelength selector and the other elements of the system.

The wording of claims 33-35 is vague and confusing, and Examiner is unsure of what is being claimed.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Takano et al '847.

With respect to claim 1, Takano teaches a semiconductor light-emitting device, an external resonator including a wavelength selector, a stripe formed in the semiconductor light emitting device so that it is oblique to one end facet (figure 1), and one end facet of the semiconductor device having an antireflective coating (column 2, lines 25-50).

With respect to claim 2, Takano teaches two wavelength selectors disposed on both sides of the semiconductor light-emitting device (3a and 3b in figure 3).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 3-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takano et al '847 in view of prior art figure 17.

Claim 3 requires the wavelength selector have a function of returning the wavelength-selected light to the semiconductor light-emitting device. Figure 17 and the prior art disclosure of the present application teach such a setup (page 1, line 25 – page 2, line 25). At the time of the invention, it would have been obvious one having ordinary skill in the art to combine the wavelength selector function taught in the prior art of the present application with the system as

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taught or suggested by Takano. The motivation for doing so would have been to create a resonator which resonates light of a desired wavelength.

With respect to claim 4, Takano teaches a stripe having a bent portion being formed perpendicular to the end facet of the semiconductor light-emitting device (figure 4).

With respect to claims 5-8, Takano teaches an optical waveguide device (3) being coupled to the semiconductor light-emitting device or the wavelength selector (figures 1, 3, and 5).

With respect to claim 9, the prior art figure 17 of the present application teaches a wavelength selector having a function of returning the wavelength-selected light to the semiconductor light-emitting device and is disposed on one side of the semiconductor light-emitting device. Claim 9 requires the optical waveguide device be disposed on the other side of the semiconductor light-emitting device. Takano teaches an optical waveguide device disposed on each side of the semiconductor light-emitting device. Therefore, at the time of the invention, it would have been obvious to include a waveguide device on the opposite side of the wavelength selector.

With respect to claims 10 and 11, the prior art disclosure on page 3, lines 1-13 teaches an optical waveguide device having a wavelength converting function.

With respect to claims 1~~2~~-18, prior art figure 17 shows the optical waveguide device being disposed in the external cavity.

With respect to claim 19, prior art figure 17 teaches an end facet of the optical waveguide device that constitutes an external resonator being cut perpendicular to a direction where an optical waveguide of said optical waveguide device extends.

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With respect to claim 20, Takano teaches an end facet of the optical waveguide device being cut oblique to a direction where an optical waveguide of the optical waveguide device extends.

With respect to claim 21-27, Takano teaches an optical waveguide (3) being coupled directly to the semiconductor light-emitting device or wavelength selector (figures 1 and 3).

With respect to claim 28, prior art figure 17 and the prior art disclosure on pages 1 and 2 teach such a configuration.

With respect to claim 30, the prior art disclosure teaches an external resonator being constituted by a mirror (page 1, lines 18-23), and a wavelength selector comprising a narrow-band pass filter (page 1, lines 15-18).

With respect to claims 31 and 32, although not explicitly stated, a driver circuit is inherent in the system taught by Takano.

Citation of Pertinent References

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents further show the state of the art with regards to semiconductor optical devices with an oblique stripe:

- a. U.S. Patent No. 5,506,722 to Mizuuchi et al teaches an optical wavelength converting device utilizing an oblique stripe.

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Communication Information

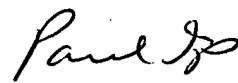
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leith A Al-Nazer whose telephone number is 703-305-2717.

The examiner can normally be reached on Monday-Friday 7:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on 703-308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7724 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-3329.

LA
January 2, 2003


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